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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/816,535	03/31/2004	DaeWoong Suh	042390.P18729	9982

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EXAMINER

LAM, CATHY FONG FONG

ART UNIT	PAPER NUMBER
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1775

MAIL DATE	DELIVERY MODE
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09/13/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/816,535

Applicant(s)

SUH, DAEWOONG

Examiner

Cathy Lam

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 October 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6,9,10,28-31 and 35-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6,9,10,28-31 and 35-39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 3-31-2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

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1. The indicated allowability of claims 1-6, 9-10, 28-31 and 35-39 are withdrawn in view of the newly discovered reference(s) to JP 62202027 A and USP 5,100,739.

Rejections based on the newly cited reference(s) follow.

Claim Objections

2. Claims 4, 29, 30 and 35 are objected to because of the following informalities: the term "polytetrafluoroethylene" and "polytetrafluorethylene" are believed as typographical errors, the correct spelling should be -- polytetrafluoroethylene --. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. Claim 35 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 35, it is structurally indefinite as to where is this "composite" is located with respect to the nickel layer and the base portion.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-2, 5, 9, 30-31 and 36 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by JP 62202027 A.

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The cited prior art reference teaches a tapping screw which has a threaded surface is comprised of a stainless steel material (5) plated with a Ni-P alloy layer (6).

The stainless steel material (5) is SUS 304, which is an austenitic stainless steel material, or Ni-Fe. The examiner is taking the position that the stainless steel material (5) is the claimed base portion.

Claim Rejections - 35 USC § 102/103

6. Claims 1-6, 9-10, 28-31 and 35-39 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Kuruma et al (US 5,100,739).

The present invention is directed to a tool that comprised of a base portion having pattern and a nickel layer. The nickel layer is coated over the base portion surface. The tool having the pattern is impressed upon a package substrate.

The base portion is a nickel alloy material comprised of either Ni-Co, Ni-Mn or Ni-Fe; the nickel layer that coated over the base portion is a nickel composite layer or a nickel alloy layer that can be nickel with a reinforcement, Ni-P or Ni-B. The reinforcement constituent can be SiC, Al₂O₃, diamond particles or polytetrafluoroethylene.

Kuruma teaches a plated metal sheet comprised of a metal sheet (2), a nickel alloy plating layer (3), a composite metal plating layer (4); all in the named order (Fig. 2).

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The plated metal sheet is used for manufacturing a printed circuit board by hot pressing (col 4 L 51-52). The examiner is taking the position that the printed circuit board resembles the claimed package substrate.

The metal sheet (2) is comprised of a steel material such as austenitic stainless steel or ferritic stainless steel (col 5 L 56-57).

The nickel alloy-plating layer (3) can be a nickel phosphorus alloy or a nickel boron alloy (col 6 L 1-2).

The composite metal plating layer (4) is comprised of metals such as *nickel*, chromium, *cobalt*, zinc, copper, tin, etc. or their alloy (col 7 L 12-15). The composite metal plating layer (4) may also be a nickel phosphorus or a nickel boron alloy (col 7 L 17-21). A reinforcement material such as fluorocarbon polymer particles (5) are uniformly dispersed within the composite metal plating layer (4) (col 8 L 62-67).

Both the nickel alloy plating layer (3) and the composite metal plating layer (4) impart a high hardness as an upper layer (col 7 L 19-21). The average thickness of the nickel alloy plating layer (3) is under 0.1 μm and the average thickness of the composite metal plating layer (4) is under 0.1 μm (col 6 L 55-57 & col 7 L 47-49). The examiner is taking the position that both layer (3) and layer (4) resemble the claimed nickel layer and/or the nickel composite layer.

Kuruma teaches the main scope of the present invention but is silent about having a pattern on the metal sheet (2) (or base portion).

In view of Kumura's teaching, it would have been obvious that since the plated metal sheet is used for pressing, it would have some surface topography in the metal


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sheet (2) because embossing or pressing tools would most likely have a surface pattern.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cathy Lam whose telephone number is (571) 272-1538. The examiner can normally be reached on 9am-6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer McNeil can be reached on (571) 272-1540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Cathy Lam
Primary Examiner
Art Unit 1775

cfl
April 23, 2007